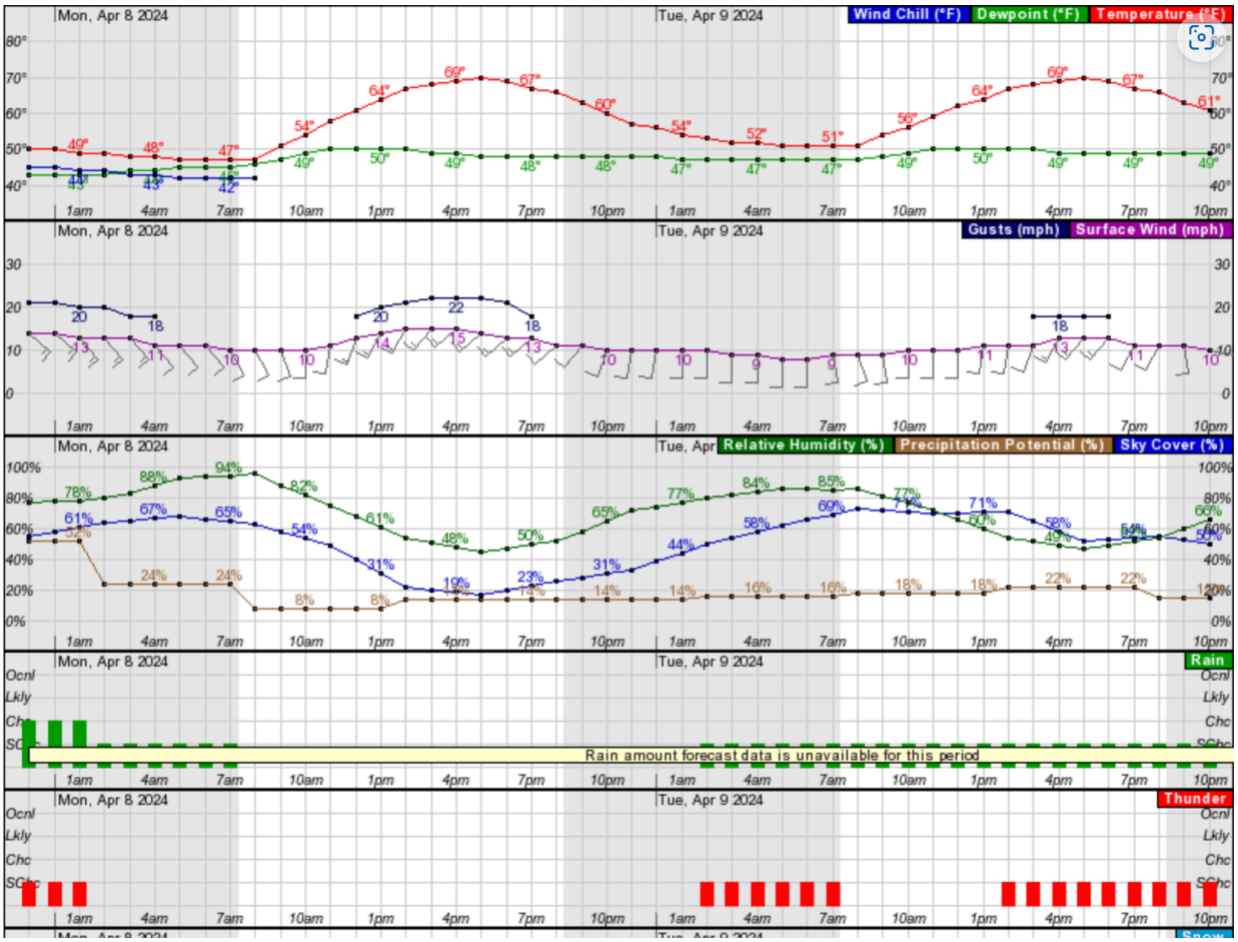
INDIANA UNIVERSITY

TURO

TESLA

Solar Eclipse EV Road Trip by Brandon Swan, Rachel Shannon & Derek Lamb



Introduction:

The purpose of this road trip is to experiment with budgets and previously unknown variables into real world applications within personal constraints.

Objective:

To track and approximate the most ideal location to observe the 2024 Solar Eclipse in its totality, and use the best available resources to accomplish this outcome.

Constraints:

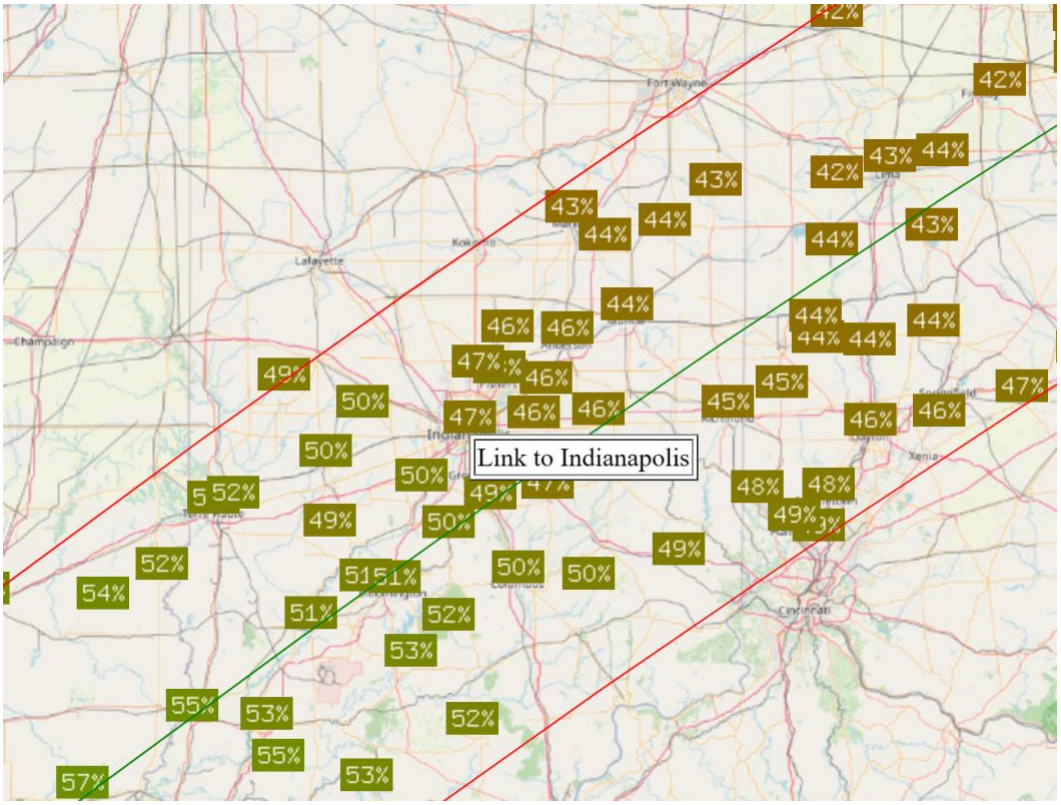
1. Time: At the point of this trip, I had two weeks to come up with a solution which utilizes the best outcome and I only had 4 days off from work and racing against time to witness a celestial event which shall wait for no man.

2. Budget: I was working with about $2,000 to make the trip happen. A major decision I was faced with was determining whether flying or driving would be best.
    a. Flight : Approximately $1,800 per person at the time, due to demands.
    b. Car: Approximately $1,500 with space for 3 people. Hotels an additional $600.
3. Environmental Impact:
    a. Flight: Flying via layover would utilize unused seats and reduce the environmental footprint.
    b. Car: Renting an EV would reduce the environmental impact exponentially. This is the option I ended up going with. Tesla Model 3.

Destination Planning:

1. Choice A: Maine
2. Choice B: Indiana
3. Choice C: Texas

According to the historical observatory data available to the public which tracks cloud coverage at their respective locations, I was able to determine that the expanse between Maine and Texas favored clearer skies the further south one travelled.

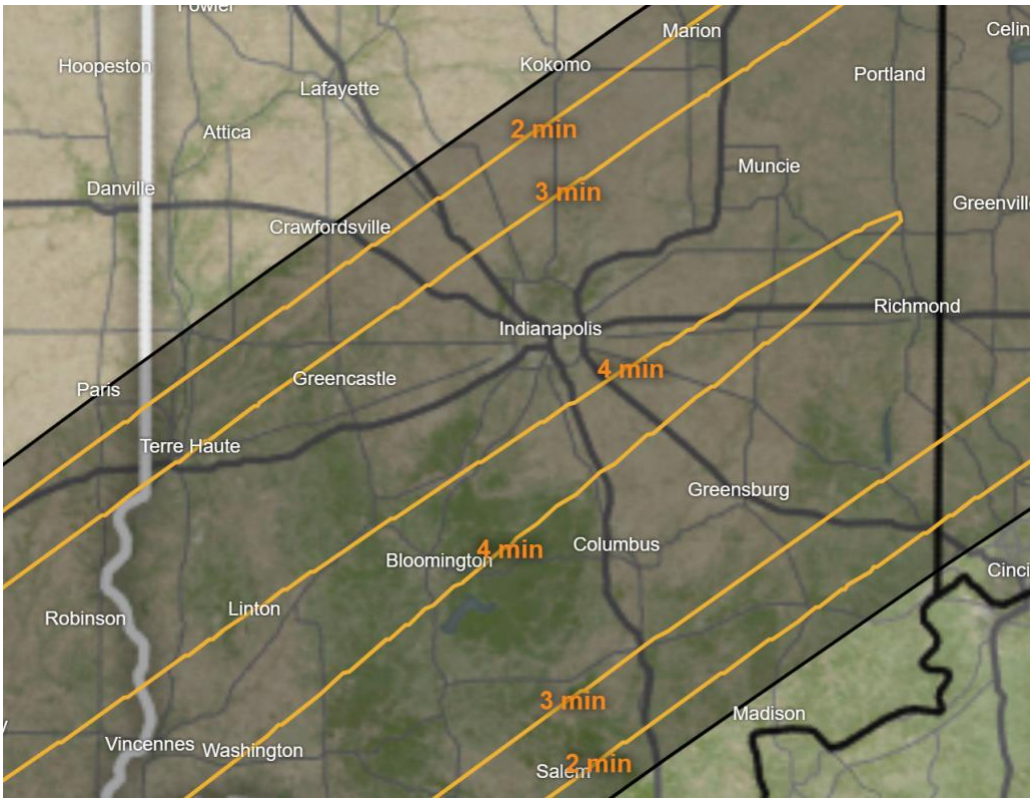


This prediction also depended on weather conditions available closer to the date, especially for Maine which had a decent chance of getting hit by Canadian precipitation which could affect the visibility. Therefore, Maine was less desirable despite being closer in proximity to my starting position in Massachusetts.

Texas, although a better candidate for the most favorable weather conditions, would have been met with harder constraints with time and budget. Therefore, this option was the least favorable.

Indiana, where I was able to also visit a cousin at the same time and have a couple of nights sorted out, turned out to be the most desirable choice, provided that my confidence level in clear skies remained intact.

Based on the above cloud coverage history and below regional map of totality coverage, Bloomington ended up being the targeted spot to post up. I made sure my planned route had Tesla supercharger stations along the way.



Bloomington was selected due to its proximity to a major highway connecting Lafayette, where I needed to be first to collect my cousin Zach Yaple. It was also a town with my landmarks including Indiana University (which I did not know until we had arrived).

Date	04/08																					04/09		
Hour (EDT)	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	00	01	02
Temperature (°F)	50	49	49	49	50	50	53	56	59	62	66	69	70	71	72	70	68	66	63	61	58	57	55	54
Dewpoint (°F)	46	46	47	47	48	48	49	50	50	50	50	49	48	47	47	47	48	48	48	47	47	47	47	47
Wind Chill (°F)	45	45	45	45	46	46																		
Surface Wind (mph)	11	11	10	9	9	9	9	10	11	13	14	15	15	15	15	14	11	10	10	10	10	10	9	9
Wind Dir	SE	SSE	SSE	SSE	S	S	S	S	SSW	SSW	SSW	SSW	SW	SW	SW	SW	SW	SW	SW	SSW	SSW	SSW	S	S
Gust									18	20	21	22	23	23	23	21	18							
Sky Cover (%)	62	64	67	67	67	67	54	42	29	25	22	18	18	19	19	21	23	25	29	34	38	42	45	49
Precipitation Potential (%)	17	17	17	17	17	6	6	6	6	6	6	11	11	11	11	11	11	12	12	12	12	12	12	16
Relative Humidity (%)	86	89	93	93	93	93	85	79	72	64	56	49	46	43	41	44	48	52	57	61	67	70	73	77
Rain	SChc	SChc	SChc	SChc	SChc	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SChc
Thunder	SChc	SChc	SChc	SChc	SChc	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	SChc
Snow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freezing Rain	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sleet	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ceiling Height (x100ft)																								
Visibility (mi)																								
Thunder Potential	15	15	15	15	15	6	6	6	6	6	6	11	11	11	11	11	11	12	12	12	12	12	12	16

Bloomington Forecast Extracted 4/4 NOAA 39.17N 86.52W (Elev. 794 ft)

The above chart, which weather data extracted from a NOAA database, gave me the information I needed to determine a confidence level for visibility. In the off-chance of a reduced confidence, the decision was to stick with Indiana, but relocate to another spot.

Based on available information cross-checked with many sources, the totality was predicted to peak around 3pm. We can see that the expected cloud coverage was at its minimal point of about 18% chance. By observing also the remaining data, I was able to conclude that warm, non-windy, not too humid, no rain expectation, and minimal otherwise precipitation expectation; were all favorable ingredients for high confidence in favorable weather conditions and the risk associated with the possibility of needing to relocate was unlikely, if even needed a little.

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At this point, it became a matter of mapping out the route:

1. Massachusetts to Indiana
2. First Indiana Rest Point to Lafayette, then to Bloomington
3. Bloomington to Lafayette
4. Lafayette to Massachusetts.

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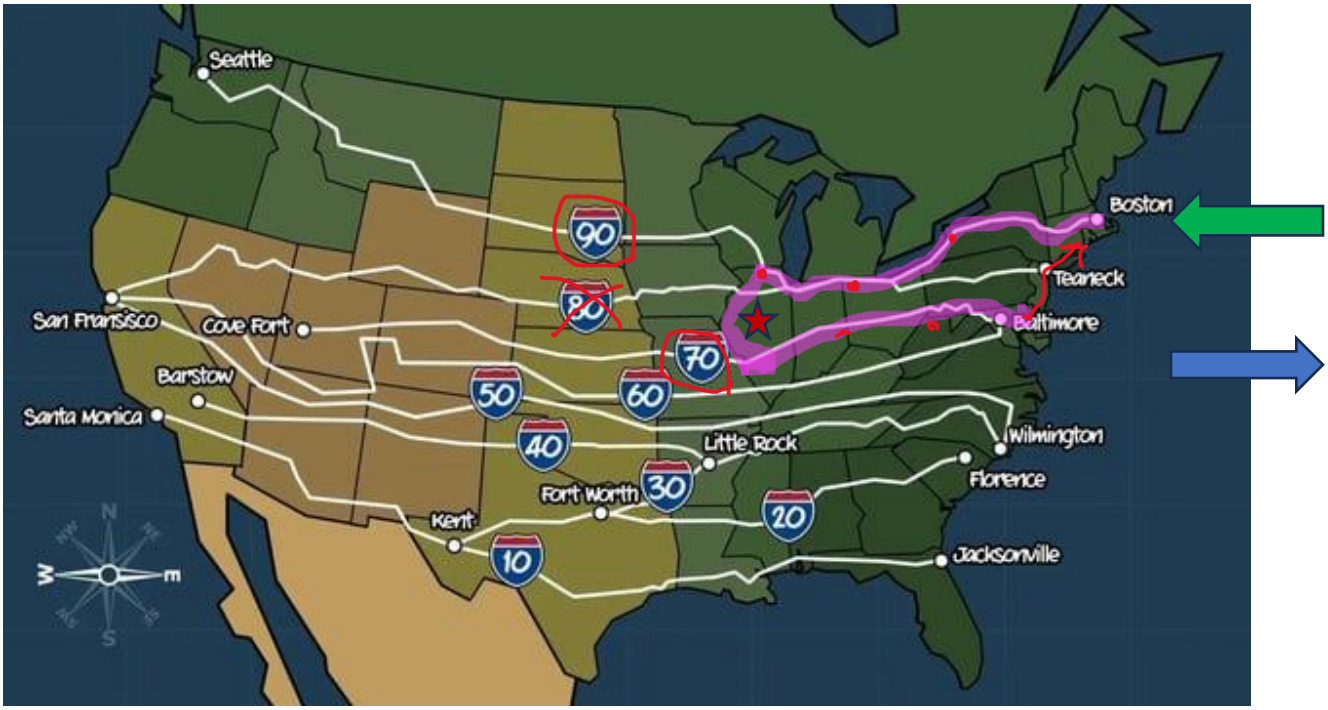
Main routes between Massachusetts and Indiana:

1. Route 90: This allowed to view places south of the Great Lakes.
2. Route 70: This was more favorable to return to explore more areas.



As you can see, a full circle was made. We, myself and two other friends, avoided Indianapolis due to concerns for high congestion. As it turns out, we were right. After waiting for hours to return to visit Lafayette again, the Telsa got dangerously low in battery power.

Fortunately, we ended up finding a non-programmed Supercharger station (buy this, I mean one not available in the car's GPS). Instead, I Googled for it and found it, not only nearby, but also not very busy and full of Eclipse Hogging EV Maniacs. My backup plan was to locate a hotel with EV abilities and post up there and purchase a room if I had to.

Outcome:

The entire trip was overall successful. This included planning out an entire journey within constraints using elements which were not familiar to my regular habits. That was the first time operating an electric vehicle. I found the periodic stops to be tolerable, considering the fact that the Superchargers were located near restaurants and supermarkets. That element made the journey easy to work with.

During the journey, I always made sure to begin looking for a charging station when the battery reached 16% and I mostly stuck to the recommended 80% max, except when I suspected a

possible shortage in stations (for example in the middle of Indiana). I only ran into an issue two; once when leaving Bloomington and the other time, oddly enough, after returning home when I decided it was safe to push that extra amount and landed at a disabled station with 3%. I did manage to make it to an active station with one last attempt (the GPS predicts whether or not you can make it). If that one didn't work, my plan was to leave the car there and return with a way to charge it in the morning.

I was not very worry worried throughout the trip as we always made good time and got to enjoy many sights along the way. We even maximized the number of states we travelled through, intentionally staying a night in West Virginia! I wish I had taken some more pictures.

A couple of videos captured of the event:

The Recorded Celestial Event (Indiana 2024)

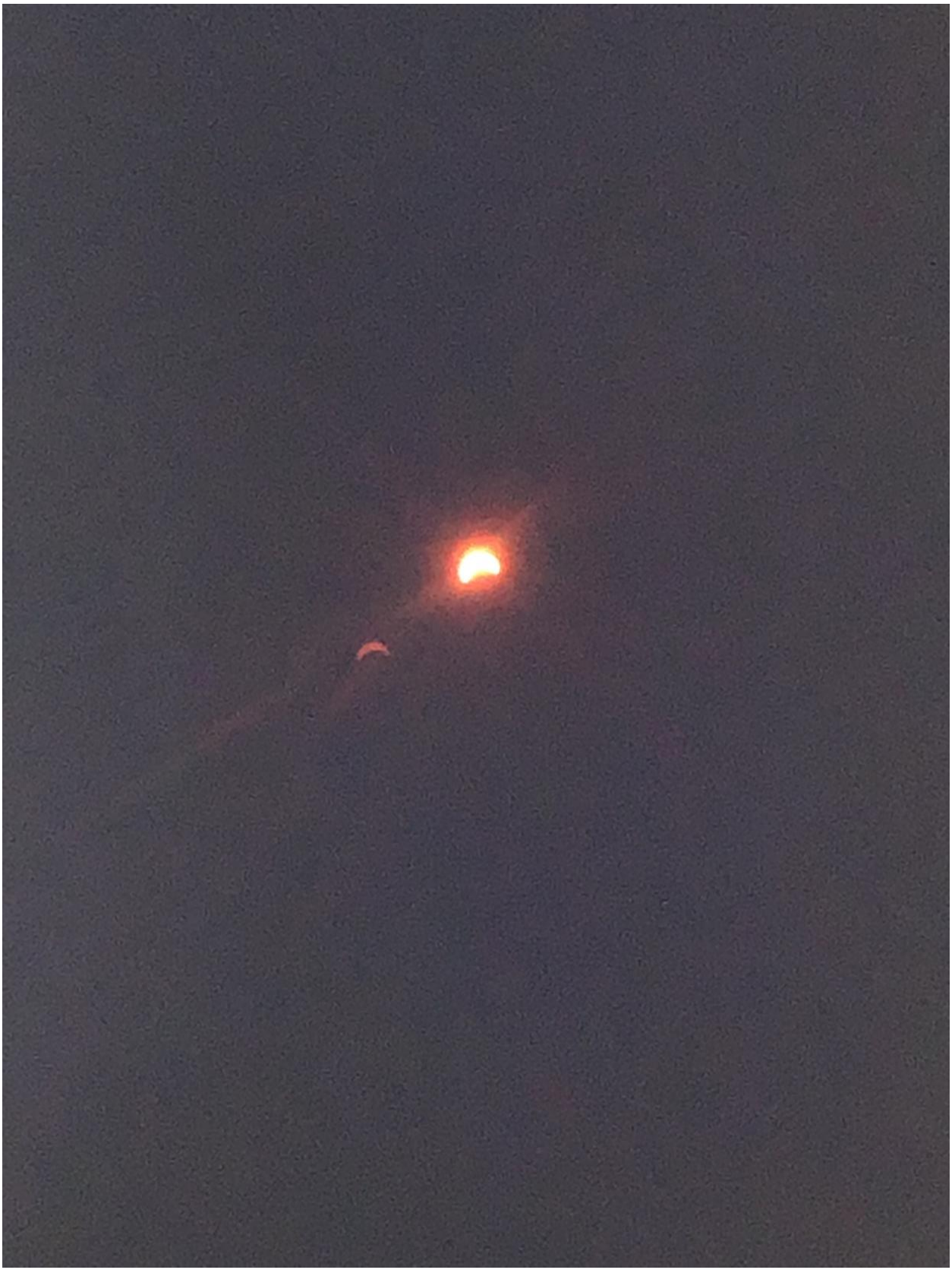
https://youtu.be/YKcZjIPkG1M?si=cv5vfZnP_0gJi1Mb

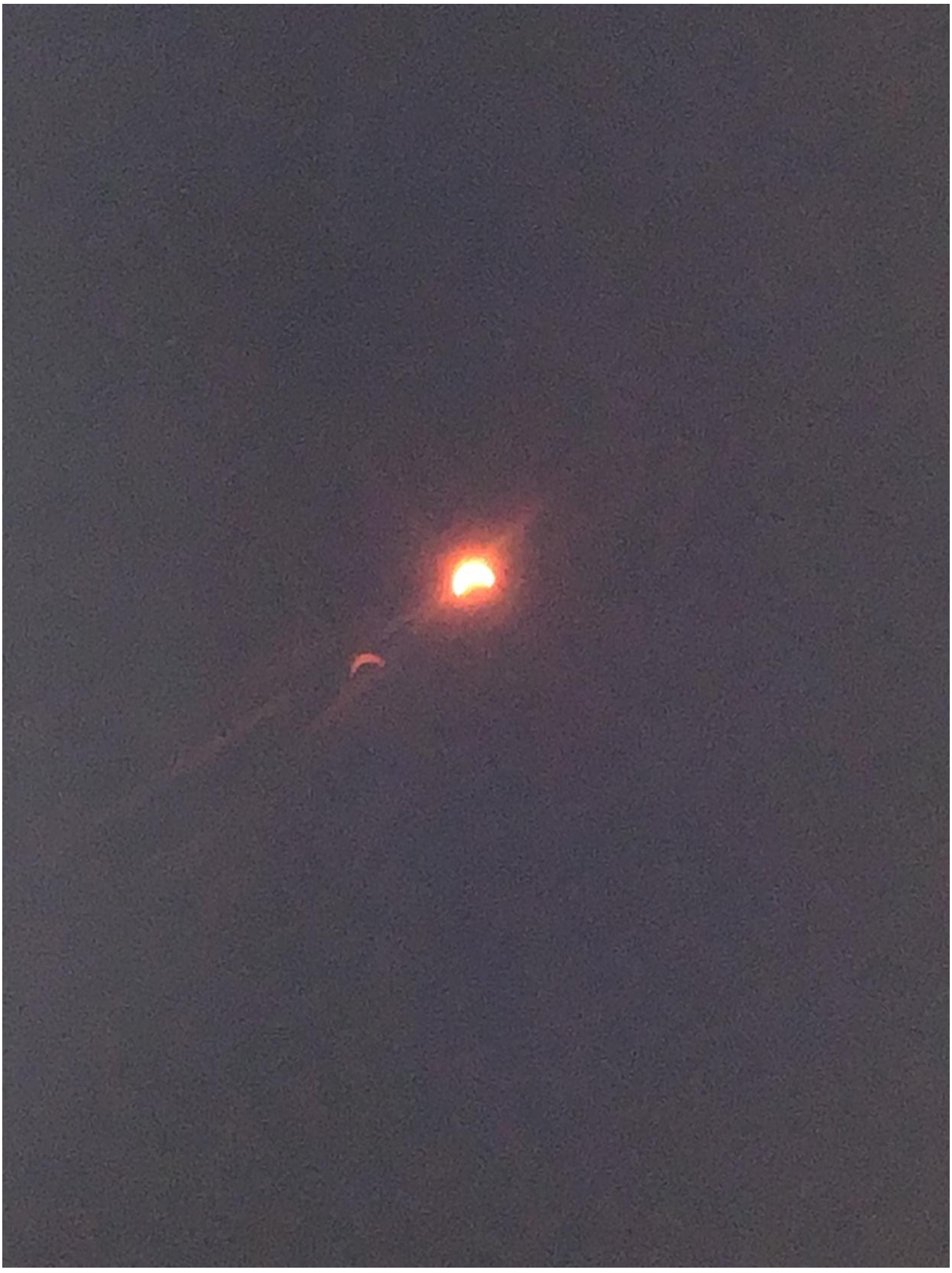
Indiana University (Pre-Eclipse)

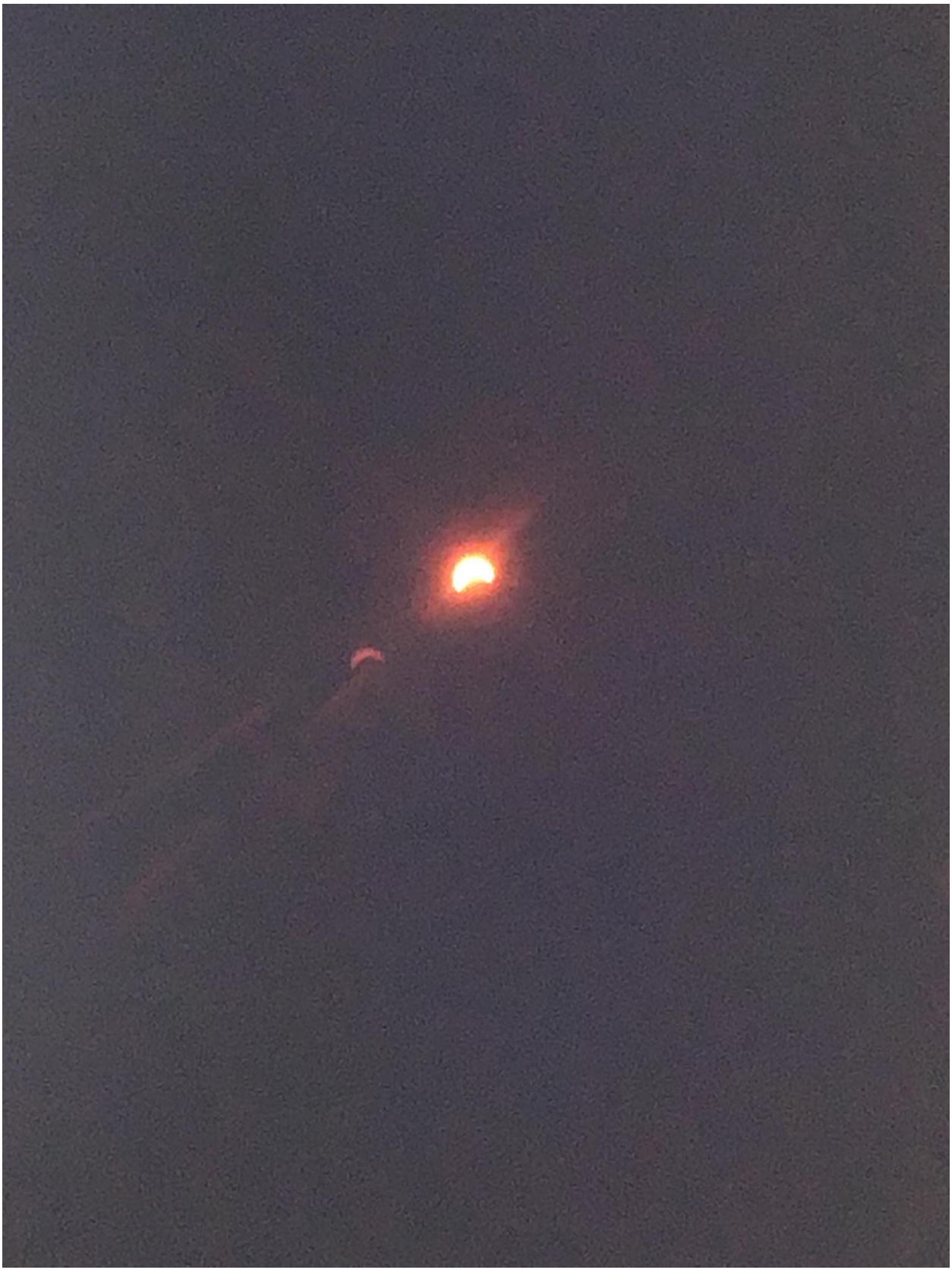
https://youtu.be/0rNt3bILzuQ?si=T0Hn5U0ffstf986I

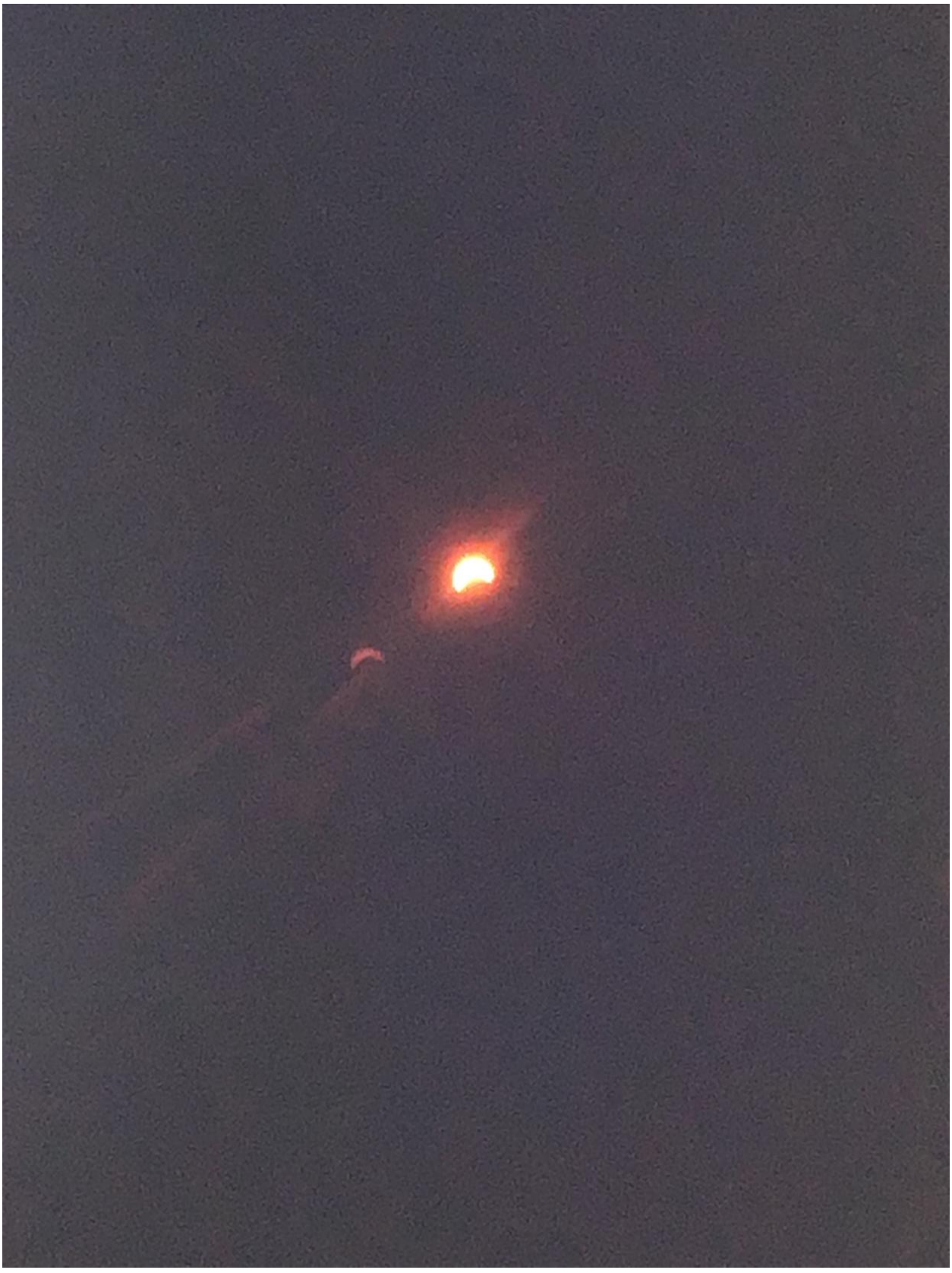
Here are some I was able to find:

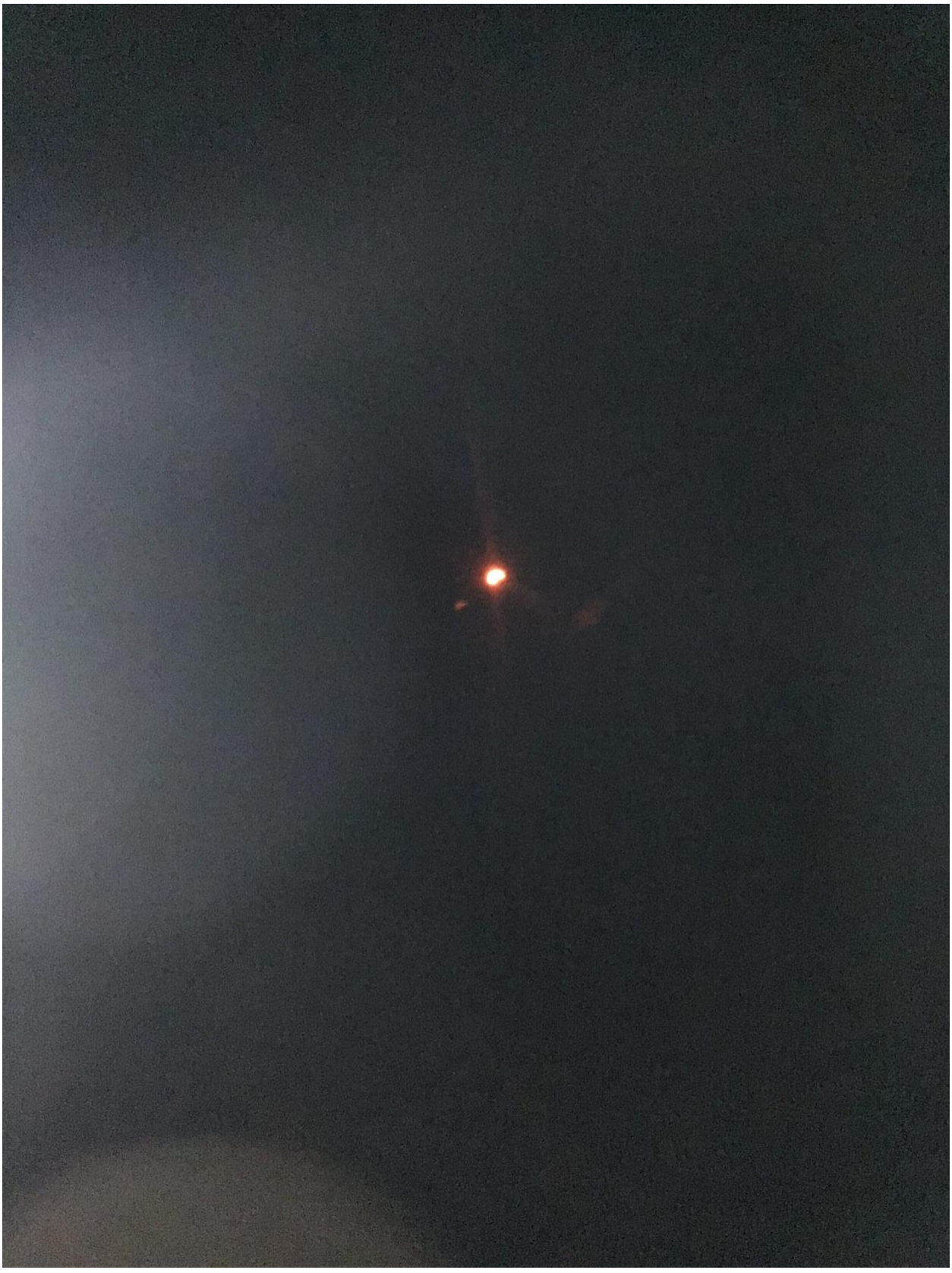

NOW OPEN !
DOLLAR TREE
TESLA
TESLA











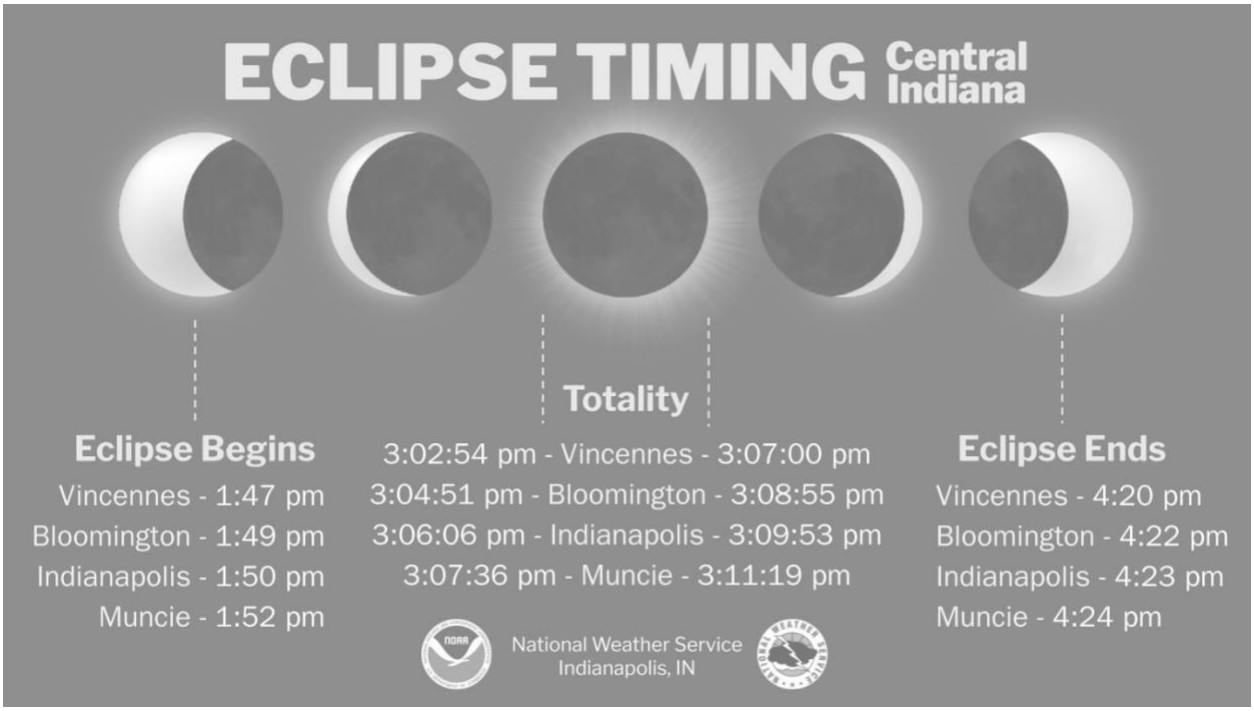
The original details:

Massachusetts to Indiana

1. Hampton Inn Rome
    a. 1352 Floyd Avenue Rome, New York 13441 USC
    b. +1 315-709-0000
    c. Hot Breakfast Included
    d. EV Charging
    e. Cancelation 1 day before
    f. Confirmation number: 88314282
2. Ramada, Indiana
    a. 3855 North State Road 127, Angola, Indiana 46703
    b. +1-260-665-9471
    c. Sunday - Monday
    d. Check-in after 3pm
    e. Check-out before 11am
    f. Continental Breakfast
    g. EV Charging (if available)
    h. Confirmation Number: 80649EE013950
    i. 3 Hours to Lafayette
3. Supercharger Station Lafayette
    a. 4901 State St #26E, Lafayette, IN 47905
4. Supercharger Station Bloomington
    a. 3600 W 3rd St, Bloomington, IN 47404
5. Tibetan Mongolian Buddhist Cultural Center
    a. 3655 S Snoddy Rd, Bloomington, IN 47401
6. Woburn Tesla Supercharger Station
    a. 101 Commerce Way Woburn, MA 01801

Checklist

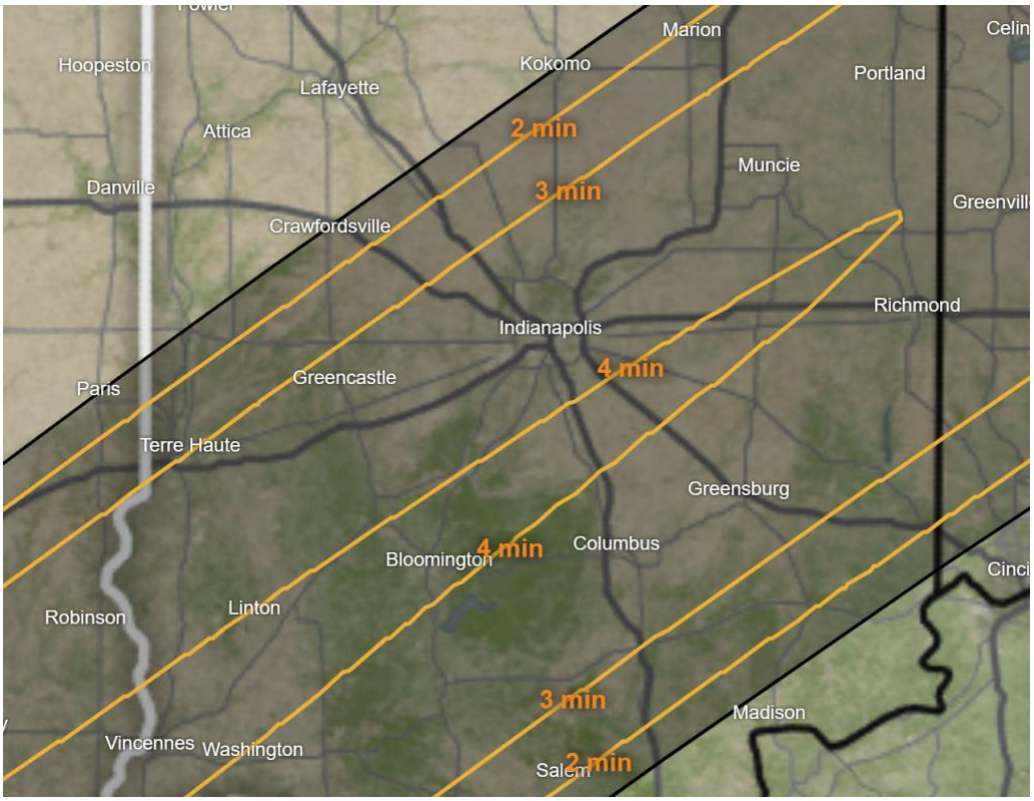
Phone, laptop, money, Wifi, TP, Water, Food, Snacks, Soda, Clothes, Airbed, Zach's Gift, Solar Glasses, Tire Pump, iPod, External Camera, Empty Container,



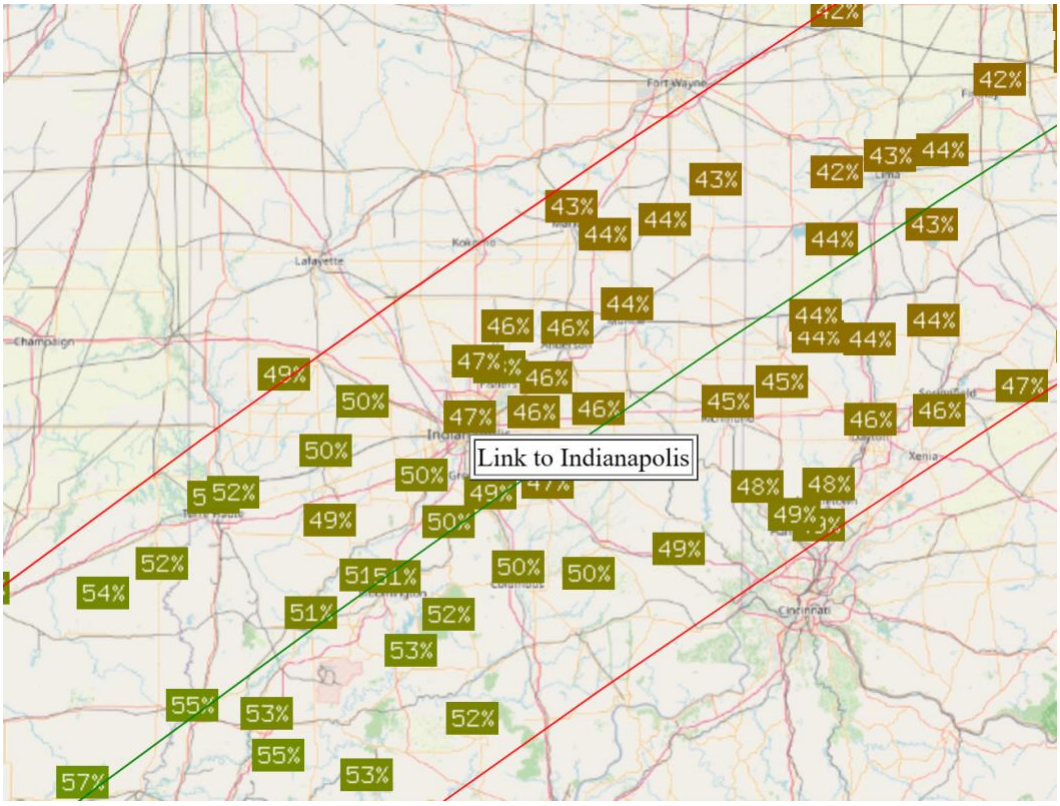
Travel Route 231 South from Lafayette Until Desirable Weather.

- Route 231
- Route 46 Spencer to Bloomington
- Route 69
  Route 38

1 Eclipse Pathway



2 Clear Skies Percent Based on Observatory Data Last Year



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Snow	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Freezing Rain	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sleet	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
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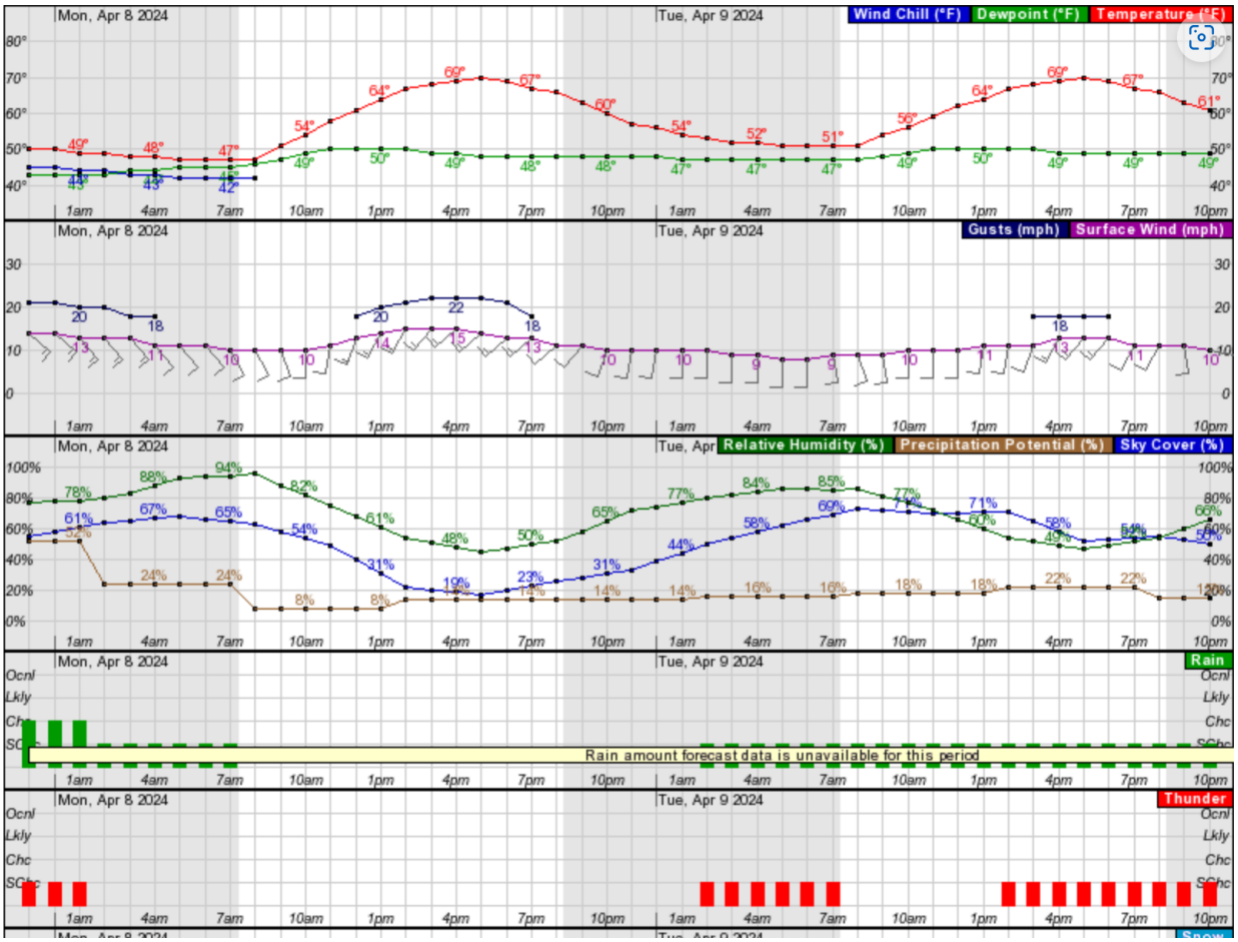

Indiana to Massachusetts

1. Econolodge Inn & Suites Tridelphia - Wheeling
    a. 87 Jenkins Ln, Triadelphia, WV 26059
    b. (304) 547-1380
    c. Confirmation # 52025160
    d. Wed – Thursday
    e. EV Charging
    f. Continental Breakfast
2. Marriot Courtyard Philadelphia City Avenue
    a. 4100 Presidential Blvd, Philadelphia, PA 19131
    b. 215-477-0200
    c. Thursday – Friday
    d. Confirmation #84585395
    e. EV Charging

    f. Breakfast
3. Villanova University to Woburn

Common Hotel Chains which might offer Free Telsa Charging! Just keep in mind they run on 110-220V house power, so it takes approximately 6 hours to charge. Great option for emergencies and overnight charging for road trips. Usually online will mention if is EV charging. Sometimes it isn't free. Sometimes it's the wrong charging plug. Therefore ,make sure to bring a 'J1772 Adaptor' which fits your Telsa! I didn't have one because I was just learning. Amazon and Ebay both have many options for this.

Here is a combo adaptor which should cover all the plugs and their varying ratings.

https://www.amazon.com/Upgraded-Adapter-SuperFast-Charging-Compatible/dp/B0CXDWZ193/ref=pd_ci_mcx_pspc_dp_2_t_3?pd_rd_w=p2d4P&content-id=amzn1.sym.cd152278-debd-42b9-91b9-6f271389fda7&pf_rd_p=cd152278-debd-42b9-91b9-6f271389fda7&pf_rd_r=9VR50FT4E1CWJB7A2W5K&pd_rd_wg=QmP6B&pd_rd_r=85660218-1870-4a3d-9467-f34f118b4868&pd_rd_i=B0CXDWZ193

- Hilton Worldwide
- Marriott International
- Best Western
- Holiday Inn (IHG Hotels & Resorts)
- Radisson Hotels
- Hyatt Hotels
- Choice Hotels

Other EV Options: Yes! You can get adaptors to go from a Tesla Supercharger to J1772 or some kind of CCS to NACS Adapter. Make sure you read up on how to enable the charging. Apparently to pay this way, it's almost the same way as a regular Tesla, you just set it up in the Tesla app.

Just don't forget about the idle fees! Those are killer. You can what the rate of charging and plan accordingly. If I know I have 40 minutes to 80% from less than 10%, then I know I have time to sneak into the grocery store. Just keep an eye on the time.

My family has been driving Audi E-trons and they love it so much they own two of them. I've even been seeing farmers using them! It's quite a funny sight!

Project Consultants